

An apparatus measures a spectral distribution of a narrow-band laser beam generated by a line-narrowed excimer laser or a molecular fluorine laser system. The apparatus includes an interferometric device disposed along an optical path of an output beam of the laser system such that the beam traverses the interferometric device on a first pass, a retro-reflector disposed after the interferometric device along the optical path for retro-reflecting the beam back through the interferometric device on a second pass, and a detector for detecting an intensity of the beam after the second pass through the interferometric device. Preferably, spectral information is determined when the free spectral range of the interferometric device is tuned and the detector measures the intensity of the beam at a plurality of free spectral ranges or when the wavelength of the output beam is tuned.